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BRIEFER ARTICLES.

THE VIENNA CONGRESS.

THE SECOND International Botanical Congress was held at Vienna, June 11–18, 1905, and was highly successful in every way. There was a large and unusually representative attendance, the list of members containing about 600 names. Deducting ladies registered with husbands or relatives, and the considerable number of amateurs from Vienna and the neighborhood, it is certainly safe to say that there were present nearly 400 professional botanists. Of that number nearly one-half would be known by name to any one familiar with botanical literature, and among these were many whose reputation is world-wide. Naturally Austria was most numerously represented, but Germany sent a large contingent, and nearly all the European countries were represented, except perhaps those of the Iberian and the lower Balkan peninsulas. The English were few—a half dozen at most. Sixteen American botanists were present: ARTHUR, ATKINSON, BARNES, BARNHART, BLAKESLEE, BRITTON (Mr. and Mrs.), BROWN, CAMPBELL, COVILLE, DUGGAR, ROBINSON, SHEAR, TRELEASE, UNDERWOOD, and WOODS. But American societies were sadly negligent, and many were unrepresented which might have delegated authority to some of the sixteen.

The Congress was opened in the *Festsaal* of the University by WIESNER, with addresses of welcome by the minister of agriculture, speaking for the emperor; by the burgomeister, for the city; and by the rector for the university. BONNET, secretary of the Paris Congress, gave a historical statement of the organization of the present congress, and REINKE (Kiel) delivered an address on *Hypothese, Voraussetzungen, Probleme in der Biologie.*

In the afternoon the Nomenclature Conference organized in the hall of the Museum in the Botanical Garden by electing as president FLAHAULT; as vice-presidents RENDLE and MEZ; and three secretaries; received the report of the standing committees and of the *Rapporteur général* (BRIQUET); and adopted rules of procedure. The report of the Commission was presented as a quarto of 160 pages, having the text of the code of 1867 in the first column, the new formal proposals of various bodies in the second, notes by the *Rapporteur* in the third, and the text recommended by the Commission in the fourth. This *texte synoptique* was the work of BRIQUET, whose arduous labors for the past five years thus made possible the revision of the rules of nomenclature by this Congress. His untiring industry, unfailing patience, uniform courtesy and impartiality, as well as his linguistic facility won the admiration of all.

Afternoon sessions thereafter, from 3:00–7:00 or even later, were devoted to the discussions and actions of the *texte synoptique*.

Morning sessions and on some days also afternoon sessions, which were held in the lecture-room of the Engineer-Architects Club, were devoted to addresses upon special topics. Thus on Tuesday there were six papers on the development of the European flora since the Tertiary period; two introductory, on the geographical problems by PENCK (Vienna) and the botanical problems by ENGLER (Berlin), while ANDERSSON (Stockholm) spoke specially for the Scandinavian peninsula, WEBER (Bremen) for the north German lowlands, DRUDE (Dresden) for the mountainous region of central Germany, and BRIQUET (Geneva) for the alpine reigon.

On Thursday the topic was the present position of the doctrine of photosynthesis, MOLISCH (Prag) speaking of photosynthesis in chlorophyllous and HUEPPE (Prag) in chlorophyll-free organisms, KASSOWITZ (Vienna) giving a short talk on photosynthesis from the standpoint of metabolism. After a brief intermission the general problems of regeneration were discussed by GOEBEL (Munich), LOPRIORE (Catania) presenting a more special paper on the effects of wounding on regeneration of stems and roots. In the afternoon there were papers by ARTHUR (Lafayette) on the classification of the Uredinales; by ISTVÁNFFI (Budapest) on the life history of *Botrytis cinerea*, and by PETTKOFF (Sofia) on the algal flora of Bulgaria.

On Friday SCOTT (Kew) spoke on the fern-like seed plants of the carboniferous flora; LOTSY (Leiden) on the influence of cytology on taxonomy; and HOCHREUTINER (Geneva) on the Botanical Garden at Buitenzorg.

In the afternoon and on Saturday papers were mostly ecological: BECK (Prag), the significance of the *Karstflora* upon the development of the central European flora; DRUDE (Dresden), suggestions for an agreëment upon the terminology of phytogeographical formations, and terminology used in the cartography of plant formations; WILLE (Christiania), Schübeler's theory as to the changes which plants undergo in acclimatization at higher latitudes; TANFILJEFF (St. Petersburg), the Russian steppes; TSCHERMAK (Vienna), the production of new forms by crossing; ADAMOVIĈ (Belgrade), phytogeography of the Balkan peninsula; PALACKY

(Prag), genesis of the African flora; KURTZ (Cordoba), the fossil flora of Argentina; BORBÁS (Klausenburg), the stipas of Hungary; HUA (Paris), report on the establishment of a new international organ for the publication of new names; SCHINDLER (Brünn), regulatory processes in the plant body in relation to cultivation.

On Wednesday a meeting of the *Association Internationale des Botanistes* was held, at which reports of the treasurer and secretary were presented. The most important action taken, by an overwhelming majority, was the direction of the Executive Committee, as soon as the present contracts permit, to print all *résumés* in type of the same size, abandoning the attempted discrimination. The next meeting will be held in Montpellier in 1908. The new officers are WETTSTEIN, president; FLAHAULT, vice-president; the present secretary and treasurer were re-elected.

The botanical exposition, under the auspices of this Association, occupied the Orangery at Schönbrunn, the emperor's summer palace on the outskirts of the city. The horticultural exhibit was open only during the week of the Congress, but the other exhibits remained for two weeks. There was an historical section, comprising books, atlases, original drawings, engravings, portraits, busts, herbarium specimens, instruments, and preparations of historical interest. This portion of the exhibits was limited to Austria, and naturally the most important contributors were the botanical section of the Imperial Museum of Natural History, and the two botanical institutes of the university.

The largest section of the exposition consisted of modern appliances for instruction and research. With many of the instruments demonstrations were given daily (10–12). In this section were shown living cultures of algae fungi, and bacteria; photographs of plants and plant-formations, and microphotographs of immense variety and all sizes, including many lantern slides; drawings and paintings; wall charts and maps; current books by the publishers; exsiccatae; and apparatus of many kinds (microscopes and their accessories, balances, ovens, and baths, glassware, physiological instruments, seed-control and wood-testing appliances, etc.

Particularly noteworthy in this section was a display of materials actually used in the *Realschule* and *Gymnasia* for botanical instruction, "whose purpose," the exhibitors say, "is to put before the eyes of visitors the advance which botanical instruction has made in the last decades. . . . . Inasmuch as the phenomena of plant life must be brought close to the interest and understanding of pupils there stands in the foreground of the display the apparatus for conducting experiments in plant physiology, which break the path for the understanding of biological processes. Then come models and preparations for elucidating the anatomical and morphological features. . . . ." This exhibit shows clearly how thorough and wise the courses are. The equipment puts to shame all of our high schools and nine-tenths of our colleges.

The unique mechanical balances of NĚMETZ; the living algal cultures of the Biological Station in Vienna; the apparatus and methods of the imperial Seed-control Station in Vienna, and of the Imperial Forestry Station in Mariabrunn; and the display of pure cultures of fungi by the bureau established for this purpose by the *Association Internationale des Botanistes* (in Utrecht, in charge of Professor F. A. F. C. WENT) deserve special mention. The attempt of the Association to secure an exhibit of separates and works of many writers was practically a failure, only eleven sending papers. As a whole the exhibition was highly interesting and useful.

The third meeting of the *Freie Vereinigung der Systematischen Botaniker und Pflanzengeographen* also occurred on Wednesday, at which, in addition to a considerable list of papers, there was held a discussion on the introduction of a uniform nomenclature in phytogeography.

On Friday the agricultural botanists came together in the imperial Station for seed-control, in the Prater. No papers were read, but discussions were held on several topics, such as: methods of investigating sugar-beet seeds; weighing methods in determinations of germinative capacity; organization in seed-control stations; culture and study of barley; etc.

The actions on nomenclature are too extensive to summarize, and only a few of the more important decisions can be mentioned here. The word *laws* is to disappear, *rules* and *recommendations* taking its place. The rules for nomenclature of "cellular cryptogams," *i. e.*, the Bryophyta and Thallophyta, are remanded to a special commission of specialists, which is to present recommendations to the Congress of 1910, to be held at Brussels. In like manner a report on rules for the nomenclature of fossil plants is to be made by a Commission of paleobotanists. The word *ordo* (order) displaces *cohors*, recommended by the Commission for a group of families; but the American proposition to substitute *phylum* for *divisio* was lost. The date 1753 Linn. Sp. Plant. ed. 1. was adopted by a vote of 150 to 19. A vote on an article permitting laxity in the application of the rule of priority to generic names, and providing for a list of genera to be maintained *en tous cas*, was 133 yeas, 36 nays. Later, HARMS's list of such genera (400 and over) was adopted by a vote of 118 to 37. This list had been referred to a committee composed of BONNET, HARMS, BRITTON, PRAIN, and BRIQUET, and was recommended (by a majority) for adoption.

Some amusement was caused by the proposal of two corrections by the author while the motion to adopt was pending.

The proposition to except some old family names for the rule requiring such names to be derived from an important genus was carried by only 101 to 62.

The voting in regard to publication of a new species by plates and exsiccatae was cónfused, and the article was referred back to the Commission for editing. It is intended to exclude as valid publication *in future* plates without diagnoses, and past plates (without diagnoses) which contain no analytic drawings. Citation in synonymy and accidental mention are also declared invalid as publications. It was agreed (184 to 2) to adopt the compromise reported by a conference committee requiring the name of a section or species when transferred to another genus, or the name of a variety when transferred to another species, to be preserved or *re-established;* but when the rank is changed the preservation of the name is optional, and if not preserved its later re-establishment is not permissible. This is accompanied by a *recommendation* to preserve the primitive name whenever possible.

The vote on the use of double names (like *Linaria Linaria*) was unexpectedly close; 116 against them and 72 in favor. Generic names differing merely by their last syllable and even by one letter will be retained. Only typographic or orthographic corrections may be made in generic names.

After January, 1908, diagnoses must be written in Latin; so a close vote, 105 to 88, decided on Friday. A vote to reconsider was made on Saturday but was lost, 125 to 56. The metric system is recommended, and it is declared that "the foot, inch, line, pound, ounce, etc., should be rigorously excluded from scientific language." Fathoms, knots, and marine miles likewise fall under the ban. Authors are requested to indicate clearly the scale of magnification of figures.

On the whole the action of the Congress was conservative from the American point of view, yet marks great progress toward a stable nomenclature. Our European friends have not yet grasped the idea of generic types, and the rules relating to genera will doubtless be the next region of advance. When the final editing is accomplished and the new code is available, we may reasonably expect the rules to be generally followed until a further revision is possible.

The work on cryptogams and fossil plants will doubtless be prosecuted with vigor. The Commission of Cryptogams consists of MIGULA, LISTER, LAUTERBORN, GOMONT, WILLE, NORDSTEDT, WILDEMAN, SAUVAGEAU, DeToni, Chodat, Farlow, Arthur, Magnus, Saccardo, Patouillard, Jaczewski, Marshall-Ward, Vuillemin, Atkinson, Bresadola, Clements, Golenkin, Hua, Malmö, Zahlbruckner, Schiffner, Stephani, Levier, Evans, Cardot, Brotherus, Fleischer, Mrs. Britton, Salmon, and a few others whose names could not be secured. Some others could profitably be added to the list.

The entertainments, excursions, and visits to various institutions were numerous and attractive. A reception by the emperor was arranged, but the death of Grand Duke Josef on Tuesday estopped that, as well as a reception by the burgomeister at the Rathaus. Various long excursions after the Congress were provided, and all were sufficiently patronized to be undertaken.

The Committee of organization and the various local committees are to be congratulated on the success of their arrangements. These quinquennial international Congresses may now be considered a fixed feature of the botanical world.—C. R. B.

ANOTHER SEED-LIKE CHARACTERISTIC OF SELAGINELLA.

Two species of Selaginella (*S. rupestris* and *S. apus*) form embryos in the autumn which may resume growth after a period of rest. I left plants of these two species in a shallow box out of doors during the months of November and December, 1903. They were frozen and thawed several times during that time. In January the box was brought into the laboratory, the plants watered thoroughly, and allowed to thaw gradually. At the expiration of three or four days, the vegetative parts of the plants indicated a resumption of growth. Upon examining the strobili, young sporophytes were found thrusting roots and cotyledons from the female gametophytes. *Selaginella rupestris* is the species which displays a reduction in the number of megaspores, which are retained throughout germination, and even until the young sporophyte is well advanced.—Florence Lyon, *The University of Chicago.*